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Assignee: NIPPON SHINYAKU CO;

Assignee^{std}: NAKAMURA AYATSUGU ; TANAKA MITSUSHI ; NIPPON SHINYAKU CO

LTD; TSUDA MASAMI;

Inventor^{std}: TANAKA MITSUSHI ; NAKAMURA AYATSUGU ; TSUDA MASAMI ;

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Title: PYRROLE DERIVATIVES AND MEDICINAL COMPOSITION

DERIVES DU PYRROLE ET COMPOSITION MEDICAMENTEUSE LES

RENFERMANT

Abstract: A medicinal composition which comprises as the active ingredient a pyrrole

derivative represented by general formula (1), a pharmaceutically acceptable

salt thereof, or a solvate of either of the same, wherein R represents

hydrogen or alkoxycarbonylamino; R represents alkyl, optionally substituted aryl, an optionally substituted aromatic heterocycle, unsubstituted amino, monoalkyl-substituted amino, dialkyl-substituted amino or optionally substituted cyclic amino; R represents cyano or carbamoyl; R represents hydrogen or alkyl; E represents alkylene; q is 0 or 1; and A represents methyl, optionally substituted aryl or an optionally substituted aromatic heterocycle. The medicinal composition is efficacious in treating frequent

urination or urinary incontinence.

Composition medicamenteuse comprenant, comme substance active, un derive du pyrrole ayant la formule generale (1), un sel pharmaceutiquement

acceptable de ce derive, ou un solvate soit du derive precite, soit du sel precite, formule dans laquelle R represente l'hydrogene ou un alkoxycarbonylamino; R represente un alkyle, un aryle eventuellement substitue, un heterocycle aromatique eventuellement substitue, un amino non substitue, un amino monoalkyl-substitue, un amino dialkyl-substitue ou un amino cyclique eventuellement substitue; R represente un cyano ou un carbamoyle; R represente l'hydrogene ou un alkyle; E represente un alkylene; q est egal a 0 ou 1; et A represente un methyle, un aryle eventuellement substitue ou un heterocycle aromatique eventuellement substitue. La composition medicamenteuse est efficace pour le traitement de mictions trop frequentes ou de l'incontinence urinaire.

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Non patent citations: ARCH. PHARM., (Weinheim, Ger.), 318(10), (1985), GERD FOLKERS et al.,

Ein Weg zu N-1-Heterocyclisch Substituierten 5-Nitrobenzimidazolen, p. 953-

4.

CHEM. BER., 105(4), (1972), ROLF HUISGEN et al., 1,3-Dipolar Cyclo-Additions. 62. Benzonitrile 4-Nitrobenzylide and its Reactions with Carbon-Carbon Double and Triple Bonds, p. 1258-78.

EGYPT. J. PHARM. SCI., 32(1-2), (1991), N.G. HARES et al., Synthesis and Antibacterial Activity of Some 4-Oxopyrrolo(1,2-a)Pyrimidine 3-Carboxylic Acid Derivatives, p. 303-14.

FARMACO, ED. SCI., 43(1), (1988), M.T. COCCO et al., Synthesis and Biological Activity of Some Pyrrolo Derivatives, p. 103-12.

HETEROCYCLES, 10, (1978), TETSUO KATO et al., Reaction of beta-Amino-Crotonamides with alpha-Haloketones and alpha-Hydroxyketones, p. 261-4.

HETEROCYCLES, 20(5), (1983), GAETANO DATTOLO et al., Reactivity of 3-Diazopyrroles. Part 2, p. 829-37.

INDIAN J. CHEM., Sect. B, 27B(8), (1988), CHAITANYA G. DAVE et al., Synthesis and Biological Activity of Pyrrolo(2,3-d)Pyrimidines, p. 778-80.

- J. CHEM. RES., SYNOP., (8), (1992), SZE-MING LEE et al., The Synthesis and Chemistry of Azolenines. Part 22. Alternative Pathways in the Reaction Between 1-Chloroalkylidenemalononitriles and 2-Methyl-3-Phenyl-2H-Azirine, p. 266-7.
- J. CHEM. SOC. B, (1), (1970), L.F. ELSOM et al., Pyrrole Studies. Part XIV. Spectroscopic Characteristics of Cyanopyrroles, p. 79-81.
- J. HETEROCYCL. CHEM., 14(3), (1977), RONALD W. JOHNSON et al., Synthesis of Substituted 2-Amino-3-Cyano-4-Methylpyrroles, p. 383-5.

- J. HETEROCYCL. CHEM., 16(5), (1979), SANDRA RAE ETSON et al., Synthesis of Substituted Pyrrolo(2,3-d)Pyrimidine-2,4-Diones, p. 929-33.
- J. HETEROCYCL. CHEM., 23(2), (1986), WERNER ZIMMERMANN et al., Synthesis of Substituted Pyrrolo(1,2-a) (1,3)Diazepine. a Correction, p. 397-400.
- J. HETEROCYCL. CHEM., 33(1), (1996), GIROLAMO CIRRINCIONE et al., Reactivity of Aminopyrroles: Protonation(a), p. 161-8.
- J. INDIAN. CHEM. SOC., 68(7), (1991), CHAITANYA G. DAVE et al., Study of Reaction Between 2-Amino-3-Cyanopyrroles and Isothiocyanates. Synthesis of 4-Aminopyrrolo(2,3-d)-Pyrimidine-2(3H)-Thio nes, p. 396-7.
- J. LABELLED COMPD. RADIOPHARM., 16(6), (1979), I.L. HONIGBERG et al., Synthesis of 3-Cyano-4-Methyl-5(14C)-Methyl-2-(5-14C)Pyr rolyloxamic Acid, p. 803-7.
- J. ORG. CHEM., 31(12), (1966), ELEFTHERIA K. EVANGUELIDOU et al., Acid-Catalyzed Condensation of a Resisert Compound with Acrylonitrile, p. 4110-18.
- J. ORG. CHEM., 43(22), (1978), ISABEL A. BENAGES et al., 2-Chloroacrylonitrile as a Cyclodipolarophile in 1,3-Cycloadditions. 3-Cyanopyrroles, p. 4273-6.
- J. PHARM. SCI., 68(3), (1979), RONALD W. JOHNSON et al., Synthesis of Substituted 2-Aminopyrrole Analogs of Lidocaine I, p. 317-20.
- J. PHARM. SCI., 69(4), (1980), DEBRA L. POWERS et al., Anticonvulsant Properties of Selected Pyrrolo(2,3-d)Pyrimidine-2,4-Diones and Intermediates, p. 473-5.
- J. PHARM. SCI., 70(2), (1981), J. WALTER SOWELL et al., Synthesis of Alkylaminoalkylamides of Substituted 2-Aminopyrroles as Potential Local Anesthetic and Antiarrhythmic Agents I:alpha-Amines, p. 135-40.
- J. PRAKT. CHEM., 318(4), (1976), VON K. GEWALD et al., Reaction of .alpha.-Cyano-.gamma.-Halocrotononitriles with Amines, p. 663-70.
- KHIM. GETEROTSIKL. SOEDIN., (12), (1976), SHVEDOV V.I. et al., Synthesis of Pyrrolo(1,2-a)Pyrimidine Derivatives, p. 1677-81.
- KHIM. GETEROTSIKL. SOEDIN., (9), (1975), SHVEDOV V.I. et al., Synthesis of Substituted 2-Amino-3-Cyanopyrroles, p. 1217-24.
- LIEBIGS ANN. CHEM., (12), (1983), NABIH S. GIEGIS et al., Synthesis of 3-Aryl-3,7-Dihydro-4H-Pyrrolo(2,3-d)Pyrimid in-4-Imines, p. 2066-72.
- LIEBIGS ANN. CHEM., (12), (1983), NABIH S. GIEGIS et al., "Synthesis of 3-Aryl-3,7-Dihydro-4H-Pyrrolo(2,3-d)Pyrimid in-4-Imines", p. 2066-72.
- See also references of EP 0842923A1
- SYNTHESIS, (1), (1974), ROY A. CROCHET, Jr. et al., N-Monoalkylation of

- Primary Aromatic Amines with Trialkyl Orthocarboxylates and Sodium Borohydrate, p. 55-6.
- SYNTHESIS, (1), (1974), ROY A. CROCHET, Jr. et al., "N-Monoalkylation of Primary Aromatic Amines with Trialkyl Orthocarboxylates and Sodium Borohydrate", p. 55-6.
- SYNTHESIS, (3), (1979), RONALD J. MATTSON et al., Selective N-1-Methylation of 2-Aminopyrroles with Sodium Hydride and Dimethyl Sulfate, p. 217-8.
- SYNTHESIS, (3), (1979), RONALD J. MATTSON et al., "Selective N-1-Methylation of 2-Aminopyrroles with Sodium Hydride and Dimethyl Sulfate", p. 217-8.
- KHIM. GETEROTSIKL. SOEDIN., (9), (1975), SHVEDOV V.I. et al., "Synthesis of Substituted 2-Amino-3-Cyanopyrroles", p. 1217-24.
- KHIM. GETEROTSIKL. SOEDIN., (12), (1976), SHVEDOV V.I. et al., "Synthesis of Pyrrolo(1,2-a)Pyrimidine Derivatives", p. 1677-81.
- J. PRAKT. CHEM., 318(4), (1976), VON K. GEWALD et al., "Reaction of .alpha.-Cyano-.gamma.-Halocrotononitriles with Amines", p. 663-70.
- J. PHARM. SCI., 70(2), (1981), J. WALTER SOWELL et al., "Synthesis of Alkylaminoalkylamides of Substituted 2-Aminopyrroles as Potential Local Anesthetic and Antiarrhythmic Agents I:alpha-Amines", p. 135-40.
- J. PHARM. SCI., 69(4), (1980), DEBRA L. POWERS et al., "Anticonvulsant Properties of Selected Pyrrolo(2,3-d)Pyrimidine-2,4-Diones and Intermediates", p. 473-5.
- J. PHARM. SCI., 68(3), (1979), RONALD W. JOHNSON et al., "Synthesis of Substituted 2-Aminopyrrole Analogs of Lidocaine I", p. 317-20.
- J. ORG. CHEM., 43(22), (1978), ISABEL A. BENAGES et al., "2-Chloroacrylonitrile as a Cyclodipolarophile in 1,3-Cycloadditions. 3-Cyanopyrroles", p. 4273-6.
- J. ORG. CHEM., 31(12), (1966), ELEFTHERIA K. EVANGUELIDOU et al., "Acid-Catalyzed Condensation of a Resisert Compound with Acrylonitrile", p. 4110-18.
- J. LABELLED COMPD. RADIOPHARM., 16(6), (1979), I.L. HONIGBERG et al., "Synthesis of 3-Cyano-4-Methyl-5(14C)-Methyl-2-(5-14C)Pyr rolyloxamic Acid", p. 803-7.
- J. INDIAN. CHEM. SOC., 68(7), (1991), CHAITANYA G. DAVE et al., "Study of Reaction Between 2-Amino-3-Cyanopyrroles and Isothiocyanates. Synthesis of 4-Aminopyrrolo(2,3-d)-Pyrimidine-2(3H)-Thio nes", p. 396-7.
- J. HETEROCYCL. CHEM., 33(1), (1996), GIROLAMO CIRRINCIONE et al., "Reactivity of Aminopyrroles: Protonation(a)", p. 161-8.
- J. HETEROCYCL. CHEM., 23(2), (1986), WERNER ZIMMERMANN et al., "Synthesis of Substituted Pyrrolo(1,2-a) (1,3)Diazepine. a Correction", p. 397-

400.

- J. HETEROCYCL. CHEM., 16(5), (1979), SANDRA RAE ETSON et al., "Synthesis of Substituted Pyrrolo(2,3-d)Pyrimidine-2,4-Diones", p. 929-33.
- J. HETEROCYCL. CHEM., 14(3), (1977), RONALD W. JOHNSON et al., "Synthesis of Substituted 2-Amino-3-Cyano-4-Methylpyrroles", p. 383-5.
- J. CHEM. SOC. B, (1), (1970), L.F. ELSOM et al., "Pyrrole Studies. Part XIV. Spectroscopic Characteristics of Cyanopyrroles", p. 79-81.
- J. CHEM. RES., SYNOP., (8), (1992), SZE-MING LEE et al., "The Synthesis and Chemistry of Azolenines. Part 22. Alternative Pathways in the Reaction Between 1-Chloroalkylidenemalononitriles and 2-Methyl-3-Phenyl-2H-Azirine", p. 266-7.
- INDIAN J. CHEM., Sect. B, 27B(8), (1988), CHAITANYA G. DAVE et al., "Synthesis and Biological Activity of Pyrrolo(2,3-d)Pyrimidines", p. 778-80.
- HETEROCYCLES, 20(5), (1983), GAETANO DATTOLO et al., "Reactivity of 3-Diazopyrroles. Part 2", p. 829-37.
- HETEROCYCLES, 10, (1978), TETSUO KATO et al., "Reaction of beta-Amino-Crotonamides with alpha-Haloketones and alpha-Hydroxyketones", p. 261-4.
- FARMACO, ED. SCI., 43(1), (1988), M.T. COCCO et al., "Synthesis and Biological Activity of Some Pyrrolo Derivatives", p. 103-12.
- EGYPT. J. PHARM. SCI., 32(1-2), (1991), N.G. HARES et al., "Synthesis and Antibacterial Activity of Some 4-Oxopyrrolo(1,2-a)Pyrimidine 3-Carboxylic Acid Derivatives", p. 303-14.
- CHEM. BER., 105(4), (1972), ROLF HUISGEN et al., "1,3-Dipolar Cyclo-Additions. 62. Benzonitrile 4-Nitrobenzylide and its Reactions with Carbon-Carbon Double and Triple Bonds", p. 1258-78.
- ARCH. PHARM., (Weinheim, Ger.), 318(10), (1985), GERD FOLKERS et al., "Ein Weg zu N-1-Heterocyclisch Substituierten 5-Nitrobenzimidazolen", p. 953-4.
- J. PRAKT. CHEM., 318(4), (1976), VON K. GEWALD et al., "Reaction of alpha.-Cyano-.gamma.-Halocrotononitriles with Amines", p. 663-70.